

LEGEND:

- ① CCTV Camera  
② Conductors and Messenger-Wire  
③ Luminaire with Mast Arm  
④ Vehicle Detection System  
⑤ Flashing Beacon 1  
⑥ Single Sheet Sign Panel (4' X 4' Max)  
or Traffic Signal w/ 3 Indicators  
⑦ Flashing Beacon 2

DESIGN NOTES:

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

GROUP LOAD COMBINATIONS:

- I Dead Load  
II Dead Load + Wind Load  
III Dead Load + 0.5 (Wind Load) + Ice Load  
IV Fatigue: Not used

LOADING:

Wind Loading: 100 mph (3-second gust)  
Wind Recurrence Interval: 10 years  
Combined height, exposure, and elevated terrain factor = 1.05  
(Exposure C, structure is not located on or over the top half of a ridge, hill, or escarpment)

Ice Loading: 3.0 psf on surfaces, 0.60 in radial thickness of ice at a unit weight of 60 pcf on bundles

BASIC DESIGN VALUES:

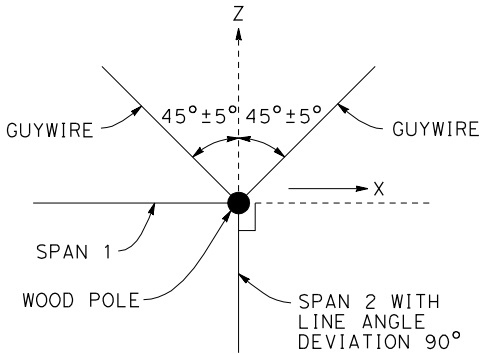
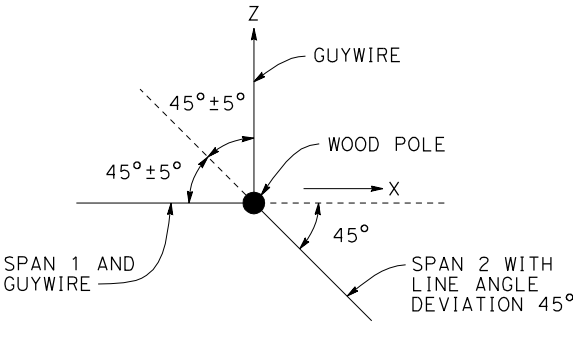
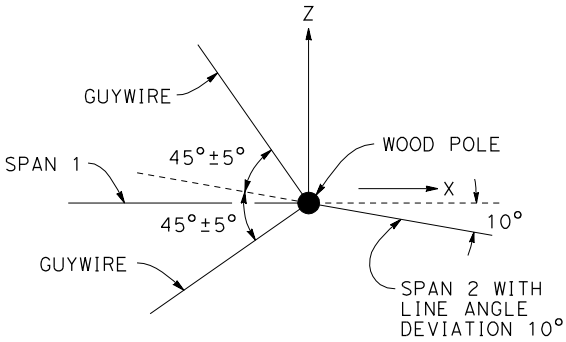
Timber Poles:  $F_b = 1850$  psi  
 $F_v = 110$  psi  
 $F_{cp} = 230$  psi  
 $F_c = 950$  psi  
 $E = 1500 \times 10^3$  psi

DESIGN WIRE BREAKING STRENGTHS:

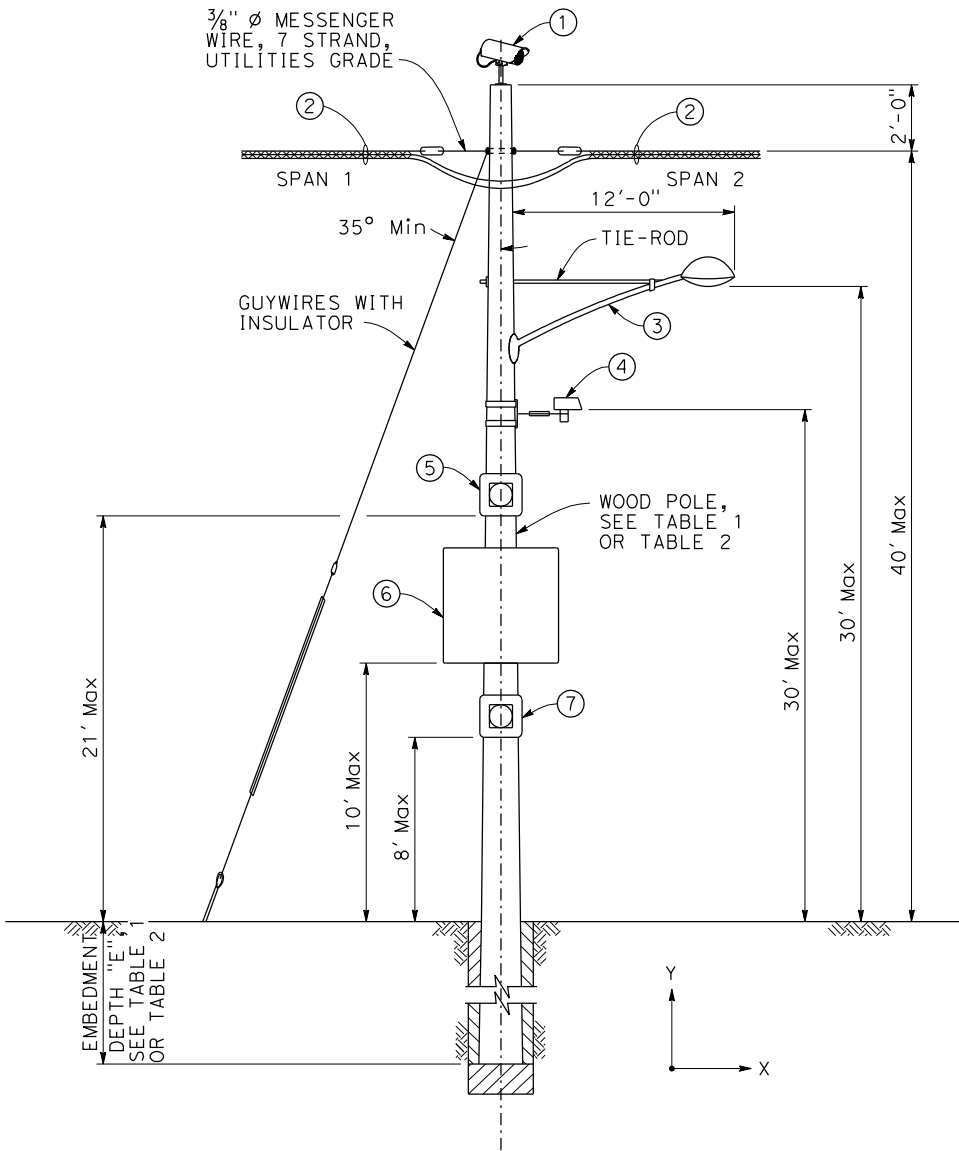
ASTM A475, Utilities Grade, 7 strand modified by termination efficiency factor of 0.8

FOUNDATION DESIGN NOTES:

- Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
- Standard embedment depth is calculated based on level ground assumption (up to slope 1V:4H).
- Embedment depth is calculated based on following soil parameters,  
Cohesive Soil:  
Shear strength of soil  $c = 1500$  psf.  
Cohesionless Soil:  
 $\phi = 30$  deg,  $\gamma = 120$  pcf.  
Soil assumed to be unsaturated.
- An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
- If pole is located on or near a steep slope (up to 1H:2V) add 2 feet extra embedment.
- Allowable vertical bearing pressure at the end bearing of poles is 3000 psf at 6 feet or more embedment.



PLAN



ELEVATION

NO SCALE

TABLE 1-CORNER POLE WITH OR WITHOUT ATTACHMENTS (WITH GUYWIRE)					
DEVIATION ANGLE	MESSENGER WIRE SPAN		MINIMUM WOOD POLE CLASS	MINIMUM POLE EMBEDMENT DEPTH "E"	GUYWIRE MINIMUM CABLE SIZE
	SPAN 1 MINIMUM	SPAN 2 MAXIMUM			
10°	50	100	4	8'	3/8"
45°	50	100	2	9'	7/16"
90°	50	100	2	9'	1/2"

TABLE 2-CORNER POLE WITHOUT ATTACHMENTS (WITH GUYWIRE)					
DEVIATION ANGLE	MESSENGER WIRE SPAN		MINIMUM WOOD POLE CLASS	MINIMUM POLE EMBEDMENT DEPTH "E"	GUYWIRE MINIMUM CABLE SIZE
	SPAN 1 MINIMUM	SPAN 2 MAXIMUM			
10°	100	150	4	8'	7/16"
45°	100	150	H-1	9'	1/2"
90°	100	150	1	9'	2-7/16"

NOTES:

- Install attachments shown if indicated on the "Project Plans".
- Guywires shall always be provided on the opposite side of larger span.
- Bundle for Span 1 must be the same as bundle for Span 2.
- Span 1 must be less than 95% of Span 2.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
X	X	X	X	X	X
REGISTERED CIVIL ENGINEER			X	DATE	
PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.			REGISTERED PROFESSIONAL ENGINEER No. X Exp. X CIVIL STATE OF CALIFORNIA		

STANDARD DRAWING				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES		BRIDGE NO. X POST MILE X		TEMPORARY WOOD POLE CORNER POLE WITH UNBALANCED SPANS							
FILE NO. <b>xs18-050</b>	APPROVAL DATE <u>December 2011</u>									REVISION DATES		SHEET	OF				
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))										UNIT: X PROJECT NUMBER & PHASE: X		CONTRACT NO.: X		DISREGARD PRINTS BEARING EARLIER REVISION DATES		X	X
										FILE => \$REQUEST							

TIME PLOTTED => \$TIME  
DATE PLOTTED => \$DATE  
USERNAME => \$USER